

ORCHIDS OF HIGH WAVY RECOLLECTED¹

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Key words: orchids, High Wavys, Periyar Tiger Reserve, *Odontochilus rotundifolius*, *Bulbophyllum agastyamalayanum*, *B. xylophyllum*.

The High Wavy Mountains are remarkable for their endemic flora, particularly orchids. Among the 34 orchids reported by Blatter in 1928, some of them could not be located and are considered as possibly extinct, mainly due to habitat degradation. This paper deals with 64 species of orchids including all the species reported by Blatter, except *Chrysoglossum halberii* Blatt., *Odontochilus rotundifolius* Blatt. relocated. *Bulbophyllum agastyamalayanum* Gopalan & Henry is reduced to *B. xylophyllum* Par. & Reichb.f. Distribution analysis and relevant notes are provided.

INTRODUCTION

The High Wavy mountains or the Varushanad Hills, towering more than 1500 m above msl are steep and high spurt hills, extending North East from Kumily at the eastern junction of Cardamom Hills and Pandalam Hills to Andipatti Hills of Madurai district, Tamil Nadu. Except for the south western junction, bordering the Idukki district of Kerala, the High Wavys are entirely in Tamil Nadu. Parts of the High Wavy Mountains, Manalar, Vellimala and Brook's peak lie adjacent to the Periyar Tiger Reserve, Idukki district, Kerala.

During plant exploration in 1917 by Blatter and Halberg, 34 species of orchids under 19 genera, including 3 new species and 1 new variety, were collected. The new taxa described were *Chrysoglossum halbergii*, *Eria pseudoclavicaulis*, *Odontochilus rotundifolius* and *Dendrobium nutans* var. *rubrolabris*. Among the 34 species, 14 are endemic to the Western Ghats.

Parts of the High Wavy in Tamil Nadu have been cleared for raising plantations of cardamom, coffee, tea and other cash crops. Owing to the

restricted distribution and habitat degradation, the 3 new species described by Blatter from the High Wavys could not be relocated and placed under various threat categories (Henry *et al.* 1979). Though *Eria pseudoclavicaulis* has been relocated from Panniyar forests and Nyamkkad, Anamudi (Abraham & Vatsala, 1981); from Munnar, Idukki district and Agastyamalai, Trivandrum district (Sasidharan *et al.* 1990), the other two species *Chrysoglossum halbergii* and *Odontochilus rotundifolius* could not be located and are considered to be possibly extinct (Nayar and Salary, 1988).

OBSERVATIONS

The area bordering the High Wavy Mountains in the Periyar Tiger Reserve is undisturbed and supports dense vegetation. During our studies on the flora of Periyar Tiger Reserve, we were able to collect 64 species of orchids from the region adjoining the High Wavys in the Periyar Tiger Reserve, including all the orchids except *Chrysoglossum halbergii* reported by Blatter (1928). The orchids collected are listed below with relevant notes. The specimens cited are deposited in the Kerala Forest Research Institute Herbarium (KFRI). The abbreviations *NS*, *JA*, and *KPR* denote the names of collectors *N. Sasidharan*, *Jomy Augustine*, and *K.P. Rajesh* respectively.

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List of Orchids:

1. *Aerides maculosa* Lindl.
Rare, in evergreen forests. Endemic to southern Western Ghats. *JA & KPR 15364*.
 2. *Anoectochilus rotundifolius* (Blatt.) Sathish & Rasm.
Odontochilus rotundifolius Blatt.
Very rare in evergreen forests. Endemic to southern Western Ghats. *JA 13779*.
- Note:** This species reported from the High Wavys by Blatter (1928) based on the collection made in 1917 had not been collected since then. Balakrishnan (1966) transferred it to *Anoectochilus rotundifolius* (Blatt.) Balakr. There was no report of this species for a long period and it was considered extinct (Henry *et al.* 1979); Ahmedullah and Nayar, 1987; Nayar and Sastry, 1987). Recently, Gopalan (1993) published a new species under a new genus, *Aenhenrya agastyamalayana*, from Agastya-malai Hills, Tamil Nadu. After critical studies and discussion with Dr. C. Sathish Kumar, TBGRI, it was found that *Aenhenrya agastyamalayana* and *Odontochilus rotundifolius* are the same. Thus the present collection is a rediscovery from the type locality after a long lapse. For a detailed discussion refer to Sathish Kumar and Rasmussen, 1997.
3. *Anoectochilus elatus* Lindl.
Rare in evergreen forests. Endemic to southern Western Ghats. *JA 13124*.
 4. *Brachycorythis splendida* Summerh.
Occasional in grasslands. Endemic to southern Western Ghats. *JA 14061*.
 5. *Bulbophyllum aureum* (Hook.f.) J.J.Sm.
rare in evergreen forests. Endemic to southern Western Ghats. *JA & KPR 17089*.
 6. *B. elegantulum* (Rolfe) J.J. Sm.
Rare in evergreen forests. Endemic to southern Western Ghats. *JA 13713, 13745*.
 7. *B. fischeri* Seidenf.
Cirrhopetalum gamblei Hook.f.
Rare in evergreen forests. Endemic to southern Western Ghats. *JA 15018*.

8. *B. fuscopurpureum* Wight
Rare in evergreen forests. Endemic to southern Western Ghats. *JA & KPR 15036*.
 9. *B. kaitense* Riechb.f.
Rare in evergreen forests. Endemic to southern Western Ghats. *NS & JA 15017*.
 10. *B. macraei* (Lindl.) Reichb. f.
Rare in evergreen forests. Southern Western Ghats and Sri Lanka. *JA 13777*.
- Note:** This was considered endemic to Sri Lanka until recently reported from Tamil Nadu (Srinivasan & Chitra, 1989). The present collection is a new record for Kerala.
11. *B. neilgherrense* Wight
Fairly common in evergreen forests. India and Bangladesh. *JA 14726*.
 12. *B. xylophyllum* Par. Reichb. f.
Bulbophyllum agastyamalayana
Gopalan & Henry syn. nov.
Rare in evergreen forests. Indo-Malayan. *JA & KPR 14474*.

Note: The similarity of *B. agastyamalayana* Gopalan & Henry and *B. xylophyllum* Par. & Reichb.f., was commented on by Sathish Kumar and Manilal (1994). Gopalan and Henry (1993) described the new species as allied to *B. hymenanthum* Hook.f., which belongs to section **Aphanobulbon** Schltr., characterised by "inflorescence one to few flowered or with a lax flowered rachis" (Seidenfaden, 1979). *B. xylophyllum* Par. & Reichb. f., belongs to the section **Globiceps** Schltr., characterised by "inflorescence a densely packed head of many small dark coloured flowers". Studies with our collections from Periyar Tiger Reserve an Shenduruny Wildlife Sanctuary, Quilon district, [*NS 11371* (KFRI)] and with the type specimen *Gopalan 96220* (MH), shows that *B. agastyamalayana* belongs to Section **Globiceps** and is no different from *B. xylophyllum*. Hence *B. agastyamalayana* Gopalan & Henry is synonymised with *B. xylophyllum* Par. & Reichb. f. The present collection extends the distribution range of the species of Kerala.

13. *Calanthe masuca* (D. Don) Lindl.
Fairly common in evergreen forests. Indo-Malayan. *JA* 12601, 13981.
14. *C. triplicata* (Willem.) Ames
Occasional in evergreen forests. Indo-Malayan. *JA* 13772.
15. *Coelogyne breviscapa* Lindl.
Occasional in evergreen forests. South India and Sri Lanka. *KPR* 14365.
16. *C. nervosa* A. Rich.
Rare in evergreen forests. Endemic to southern Western Ghats. *JA* 13863.
17. *Dendrobium anamalayanum* Chandrb. et al.
Fairly common in evergreen forests. Endemic to southern Western Ghats. *JA* & *KPR* 15362.
18. *D. herbaceum* Lindl.
Common in evergreen forests. Endemic to southern Western Ghats and Bihar. *JA* 13149.
19. *D. microbulbon* A. Rich.
Rare in evergreen forests. Endemic to southern Western Ghats. *JA* & *KPR* 14408.
20. *D. nutantiflorum* Hawkes & Heller
D. nutans Lindl. var. *rubrolabris* Blatt.
Rare in evergreen forests. Southern Western Ghats and Sri Lanka. *JA* & *KPR* 15016.
21. *Diplocentrum recurvum* Wight
Fairly common in evergreen forests. Southern Western Ghats and Sri Lanka. *JA* 15218.
22. *Disperis neilgherrense* Wight
Rare in evergreen forests and grasslands. Indo-Malayan. *JA* 13773.
23. *Epipogium roseum* (D. Don) Lindl.
Occasional in evergreen forests. Indo-Malayan. *JA* 13165.
24. *Eria nana* A. Rich.
Rare in evergreen forests. Endemic to southern Western Ghats. *KPR* 16873.
25. *E. pauciflora* Wight
Common in evergreen forests. Endemic to southern Western Ghats. *JA* 13980.
26. *E. pseudoclavicaulis* Blatt.
Fairly common in evergreen forests. Endemic to southern Western Ghats. *JA* 13973.
27. *E. reticosa* Wight
Rare in evergreen forests. Endemic to southern Western Ghats and Himalayas. *JA* 14001, *KPR* 16874.
28. *Gastrochilus acaulis* (Lindl.) O. Ktze.
Saccolabium pulchellum Fischer
Occasional in evergreen forests. South India and Sri Lanka. *JA* 17853.
- Note:** Seidenfaden (1988) comments that all the plants known by the names *Saccolabium nilagiricum* Hook.f., *Vanda pulchella* Wight, *Gastrochilus pulchellus* (Wight) Schltr., *G. nilagiricus* (Hook. f.) O. Ktze., *G. calceolaris* (J.E. Sm.) D. Don., and *G. indicus* Garay from South India are *G. acaulis* (Lindl.) O. Ktze.
29. *Habenaria barnesii* Summerh.
Rare in grasslands. Endemic to southern Western Ghats. *JA* 17880.
30. *Habenaria multicaudata* Sedgw.
Rare in evergreen forests. Endemic to southern Western Ghats. *KPR* 14344.
31. *Kingidium niveum* Sathish
Rare in evergreen forests. Endemic to southern Western Ghats. *KPR* 16885.
32. *Liparis cespitosa* (Thou.) Lindl.
Rare in evergreen forests. Indo-Malayan. *JA* 13967.
33. *L. elliptica* Wight
Rare in evergreen forests. Indo-Malayan. *JA* & *KPR* 14477.
34. *L. viridiflora* Lindl.
Occasional in evergreen forests. Indo-Malayan. *JA* 17843.
35. *L. walkeriae* Grah.
Rare in grasslands. Southern Western Ghats and Sri Lanka. *JA* 14006.
36. *L. wightiana* Thw.
Common in grasslands. Southern Western Ghats and Sri Lanka. *JA* 14007.
37. *Malaxis rheedei* Sw.
Fairly common in evergreen forests. India and Sri Lanka. *JA* 14073.

38. *Oberonia anamalayana* Joseph
Rare in evergreen forests. Endemic to southern Western Ghats *JA* 13677.
39. *O. arnottiana* Wight
Rare in evergreen forests. India and Sri Lanka. *KPR* 16879.
40. *O. bicornis* Lindl.
Rare in evergreen forests. South India and Sri Lanka. *JA & KPR* 14406.
41. *O. brunoniana* Wight
Occasional in evergreen forests. Endemic to southern Western Ghats. *JA* 12983.
42. *O. denticulata* Wight
Occasional in evergreen forests. Indo-Malayan. *J.* 12982.
43. *O. ensiformis* (J.E. Sm.) Lindl.
Common in evergreen forests. Indo-Malayan. *KPR* 16886.
44. *O. longibrateata* Lindl.
Rare in evergreen forests. Southern Western Ghats and Sri Lanka. *KPR* 14317.
45. *O. santapaui* Kapad.
O. lindleyana Wight
Common in evergreen forests. Endemic to southern Western Ghats. *JA* 13988, 13989.
46. *O. sebastiana* Shetty & Vivek.
Occasional in evergreen forests. Endemic to southern Western Ghats. *JA* 12972, *KPR* 14312, 16878.
47. *O. verticillata* Wight
Rare in evergreen forests. Endemic to southern Western Ghats. *JA* 17854.
48. *O. wightiana* Lindl.
Occasional in evergreen forests. Southern Western Ghats and Sri Lanka. *KPR* 16875.
49. *Papilionanthe subulata* (Koenig) Garay
Common in evergreen forests. Southern Western Ghats and Sri Lanka. *JA & KPR* 15026.
50. *Peristylus aristatus* Lindl.
P. stenostachys Krzl.
Rare in evergreen forests. India, Sri Lanka and Nepal. *JA* 14147.
51. *P. densus* (Lindl.) Sant. & Kapad.
Rare in evergreen forests. Indo-Malayan. *JA* 14142.
52. *Phreatia elegans* Lindl.
Rare in evergreen forests. India and Sri Lanka. *JA* 13951.
53. *Robiquetia josephiana* Manilal & Sathish
Rare in evergreen forests. Endemic to southern Western Ghats. *JA* 13970.
54. *Satyrium nepalense* D. Don
Common in grasslands. Indo-Malayan. *JA* 12181, 13190.
55. *Seidenfadeniella chrysantha* (Wight) Sathish
Saccolabium filiforme Lindl.
Rare in evergreen forests. Southern Western Ghats and Sri Lanka. *JA & KPR* 15361.
56. *Sirhookera lanceolata* (Wight) O. Ktze.
Josephia lanceolata Wight
Common in evergreen forests. Southern Western Ghats and Sri Lanka. *JA* 12331.
57. *S. latifolia* (Wight) O. Ktze.
Occasional in evergreen forests. Southern Western Ghats and Sri Lanka. *JA* 13982.
58. *Spiranthes sinensis* (Pers.) Ames
Spiranthes australis Lindl.
Rare in grasslands. Indo-Malayan. *JA* 14988.
59. *Tainia bicornis* (Lindl.) Reichb. f.
Occasional in evergreen forests. Southern Western Ghats and Sri Lanka. *JA* 13433.
60. *Trias bonaccordensis* Sathish
Rare in evergreen forests. Endemic to southern Western Ghats. *JA* 13433.
61. *T. stocksii* Benth. ex Hook. f.
Occasional in evergreen forests. Indo-Malayan. *JA* 13165.
62. *Zeuxine cladestina* Bl.
Rare in evergreen forests. Indo-Malayan. *JA & KPR* 14873.
63. *Z. gracilis* (Breda) Bl.
Z. blatterii Fischer
Rare in evergreen forests. Indo-Malayan. *JA & KPR* 14821.
64. *Z. longilabris* (Lindl.) Benth. ex Hook f.
Occasional in evergreen forests. Indo-Malayan. *JA* 13628.

CONCLUSION

The distribution analysis reveals that among the 64 species, 24 are endemic to the southern Western Ghats, *Dendrobium herbaceum* extends to Bihar and *Eria reticosa* upto Himalayas. The Indo-Sri Lankan elements are 19 and Indo-Malayan 18. The orchids of High Wavys, especially the endemics, have a narrow distribution range; and as many as 12 endemics are considered rare and a few critically endangered.

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